$\lim\limits_{0^-} f = +\infty$; $\lim\limits_{0^+} f = -\infty$ et $\lim\limits_{+\infty} f = +\infty$

2) $\frac{x-4}{x} e^x = (1-\frac{4}{x}) . e^x \Rightarrow f'(x) = \frac{4}{x^2} e^x + e^x (1-\frac{4}{x})$

$\Rightarrow \quad f'(x) = e^x (1-\frac{4}{x}+\frac{4}{x^2}) = e^x (\frac{x^2-4x+4}{x^2})$

soit : $f'(x) = \frac{e^x}{x^2}(x-2)^2 \geq 0$

x	$-\infty$	0	2	$+\infty$
f' (x)	+	+	0	+
Var f	0 ↗ $+\infty$	$-\infty$ ↗		$+\infty$

4 -/ T : $y = f'(2)(x-2) + f(2) \Rightarrow T : y = -e^2$

5 -/ fig

Qarray.tn -Aqra Blech- Qarray.tn